

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

EXPANSE NETWORKS, INC.

PLAINTIFF,

vs.

CATALINA MARKETING CORP.,

DEFENDANT.

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C.A. NO. 02-CV-2857

**DEFENDANT'S *MARKMAN* BRIEF REGARDING CLAIM  
CONSTRUCTION OF THE '129 AND '348 PATENTS**

Dated: June 25, 2004

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## I. INTRODUCTION

Expanse Networks, Inc. (“Expanse”) filed this lawsuit against Catalina Marketing Corp. (“Catalina”) alleging infringement of two of Expanse’s patents, U.S. Patent Nos. 6,216,129 (the ‘129 patent) and 6,298,348 (the ‘348 patent). Exhibit 1<sup>1</sup> is a copy of the ‘129 patent. Exhibit 15 is a copy of the ‘348 patent. Specifically, Expanse asserts that Catalina infringes claims 17, 19, and 20 of the ‘129 patent and claims 1, 8, and 17 of the ‘348 patent. Catalina denies infringement under a proper construction of the claims of the ‘129 and ‘348 patents and asserts that, under Expanse’s proposed construction (to the extent its construction can even be deciphered), the claims at issue are invalid. Before the Court can decide the issues of non-infringement and invalidity, the Court must construe the meaning of the disputed claim terms in the claims at issue. This memorandum address Catalina’s proposed constructions for those claim terms that Catalina and/or Expanse contend require judicial construction.<sup>2</sup>

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<sup>1</sup> Unless otherwise stated, all Exhibit references are to the Exhibits To Defendant’s *Markman* Brief Regarding Claim Construction Of The ‘129 and ‘348 Patents, filed concurrently herewith.

<sup>2</sup> In accordance with this Court’s June 1, 2004 Amended Scheduling Order, Catalina served Expanse with its proposed construction of the claim terms that it believed to be in dispute on June 17, 2004. On the same date, Expanse served Catalina with its proposed constructions of claim terms -- far fewer terms than Expanse previously contended needed judicial construction. *Compare* Exhibit 4 (Expanse’s June 17, 2004 claim construction) with Exhibit 22 (Expanse’s discovery response on claim construction). Expanse has taken the position that an “ordinary meaning” should be applied to all terms other than those for which it has explicitly provided proposed constructions. Expanse, however, has refused to identify what, if anything, it contends the “ordinary meaning” of these terms to be (although it has informed Catalina that it does not agree with Catalina’s interpretation of such terms). Given Expanse’s position, Expanse should be estopped from arguing (either to this Court or to a jury) how such terms should be understood in light of their purported “ordinary meaning.”

## II. LEGAL STANDARDS FOR CLAIM CONSTRUCTION

Claim construction is a matter of law for this Court decide. See *Waner v. Ford Motor Co.*, 331 F.3d 851, 853 (Fed. Cir. 2003); *Cybor Cor. V. FAS Tech., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998); *Insituform Tech., Inc. v. Cat Contracting, Inc.*, 161 F.3d 688, 692 (Fed. Cir. 1998). To determine the meaning of a claim, the Court should first look to the ordinary meaning of the claim language in the context of the specification and the prosecution history, also referred to as the intrinsic evidence. See *Vanderlande Indus. Nederlan BV v. Int'l Trade Comm'n*, 2004 U.S. App. Lexis 8655, \*24 (Fed. Cir. May 3, 2004) (“intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language”); *C.R. Bard, Inc. v. Advanced Cardiovascular Systems, Inc.*, 911 F.2d 670, 673 (Fed. Cir. 1990); *Vitronics Corp v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *Vivid Tech., Inc. v. American Science & Eng'g, Inc.*, 200 F.3d 795, 804 (Fed. Cir. 1999) (“The prosecution history is often helpful in understanding the intended meaning as well as the scope of technical terms, and to establish whether any aspect thereof was restricted for purposes of patentability.”). Claims are to be construed according to their plain or ordinary meaning **as would be understood by one of ordinary skill in the art**. See *Waner*, 331 F.3d at 854 (“Claim construction begins with determining the ordinary and customary meaning, if any, that would be attributed to the term by those skilled in the art.”) (emphasis added); *Johnson Worldwide Assoc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999).

Dictionary definitions are frequently helpful in discerning the ordinary meaning; however, the specification and prosecution history must be consulted to confirm that

meaning was intended by the inventor and to select the most relevant among several possible dictionary definitions. As the Federal Circuit has explained, “by examining relevant dictionaries, encyclopedias and treatises to ascertain possible meaning that would have been attributed to the words of the claims by those skilled in the art, and by further utilizing the intrinsic record to select from those possible meanings the one or ones most consistent with the use of the words by the inventor, the full breadth of the limitations intended by the inventor will be more accurately determined and the improper importation of unintended limitations from the written description into the claims will be more easily avoided.” *See Waner*, 331 F.3d at 854, *citing Texas Digital Sys., Inc. v. Telegenix, Inc.* 308 F.3d 1193, 1202-1203 (Fed. Cir. 2002). Additionally, although a general purpose dictionary definition (as opposed to a technical or art specific dictionary) is useful in construing terms that would be understood by one of ordinary skill in the art to have the same meaning the term has in common, lay usage, a general purpose definition cannot be used to “overcome credible art-specific evidence of the meaning or lack of meaning of a claim term.” *See Vanderlande*, 2004 U.S. App. Lexis 8655 at \*21.

The specification and prosecution history may also contain an express or implied disclaimer of claim scope, pointing to a meaning narrower than the ordinary meaning. *See Novartis Pharm. Corp. v. Eon Labs Mfg., Inc.*, 363 F.3d 1306, 1310 (Fed. Cir. 2004) (limiting claims consistent with specification and prosecution history, despite no explicit disclaimer of subject matter); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 905-908 (Fed. Cir. 2004) (claim scope may be limited expressly or “by necessary implication”) (emphasis added). Express limitation may occur when the patentee acts as

his own lexicographer, explicitly defining claim terms in the specification. *See Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298-1299 (Fed. Cir. 2003) (“The presumption [of ordinary and customary meaning] will be overcome where the patentee, acting as his or her own lexicographer, has clearly set forth a definition of the term different from its ordinary and customary meaning.”). The specification may also be sufficiently narrow, such as describing a feature as important to the invention or distinguishing a feature from the prior art, to effect an implied waiver of claim scope. *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1348 (Fed. Cir. 2004) (limiting claims based on disclosure that “the present system” uses telephone lines); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed. Cir. 2001) (claims limited to coaxial lumens when patentee distinguished prior art dual lumens as having disadvantages that were overcome by the invention).

Likewise, the prosecution history may contain an express or implied disclaimer of claim scope, such as an explicit definition or disclaimer to avoid the prior art or acquiescence in the Examiner’s interpretation of the claim. *See Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (the doctrine of prosecution disclaimer prevents a patentee from recapturing through claim interpretation specific meanings that were disclaimed during prosecution); *TorPharm, Inc. v. Ranbaxy Pharm., Inc.*, 336 F.3d 1322, 1330 (Fed. Cir. 2003) (“in ascertaining the scope of an issued patent, the public is entitled to equate an inventor’s acquiescence to the examiner’s narrow view of patentable subject matter with abandonment of the rest” and “[s]uch acquiescence may be found where the patentee narrows his or her claims by amendment or lets stand an

examiner's restrictive interpretation of a claim" citations omitted); *Inverness Med. Switz. Gmbh v. Warner Lambert Co.*, 309 F.3d 1373, 1380 (Fed. Cir. 2002) ("To be sure, failure to object to an examiner's interpretation of a claim ordinarily disclaims a broader interpretation.").

Moreover, terms common to multiple claims must be interpreted to have the same meaning and, according to the doctrine of claim differentiation, a claim should not be interpreted in such a way that renders another claim superfluous. *See Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1579 (Fed. Cir. 1995) ("The fact that we must look to other claims using the same terms when interpreting a term in an asserted claim mandates that the term be interpreted consistently in all claims."); *Tandon Corp. v. U.S. Int'l Trade Comm'n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987) ("There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims."). Claims are also interpreted the same way for both purposes of validity and infringement. *Amgen, Inc. v. Hoechst Marion Roussel*, 314 F.3d 1313, 1330 (Fed. Cir. 2003) ("It is axiomatic that patent claims are construed the same way for both invalidity and infringement."). Finally, the court may also consider extrinsic evidence, such as expert testimony and prior art, if the meaning of the claims remains ambiguous after review of the intrinsic evidence. *See Vitronics Corp v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

With respect to related patents, not only are terms common to multiple claims within a single patent construed to have the same meaning, but terms common to claims in related patents are construed to have the same meaning unless there are compelling

reasons to construe the terms differently. *See Omega Eng'g*, 334 F.3d at 1334 (“we presume, unless otherwise compelled, that the same claim term in the same patent or related patents carries the same construed meaning”); *Kimberly-Clark Corp. v. Tyco Int'l (US), Inc.*, 4 Fed. Appx. 946, 950 (Fed. Cir. 2001) (term used in specification of parent patent application “cannot reasonably be read to have assumed a different meaning when it was carried over into the specifications” of continuation-in-part patents). In the same vein, statements made during prosecution of any of these patents is relevant to construction of the same term in any of the other patents. *See Omega Eng'g*, 334 F.3d at 1333-1334. The patents at issue in this case are both continuations-in-part of U.S. Patent No. 6,457,010 (“the '010 patent”). Therefore, because there are no compelling reasons not to do so, terms common to the '129 and '348 patents should be construed the same and the prosecution history for each of the related patents is relevant to the construction of the other patents.

The claims at issue in this case are claims 17, 19, and 20 of the '129 patent and claims 1, 8, and 17 of the '348 patent. Each of these claims are construed below in accordance with the Federal Circuit’s precedent.

### **III. CONSTRUCTION OF THE CLAIMS AT ISSUE**

#### **A. OVERVIEW OF THE '129 PATENT CLAIMS**

The '129 patent is directed to a system and method for targeting advertisements to particular consumers. The claimed method involves selecting one of several advertisements to present to a consumer by determining the advertisement’s applicability to the particular consumer. *See* Exhibit 1, col.2, lns.63-65; col.3, lns.39-42; Claim 17.



The method of the '129 patent determines the applicability by mathematical operations that calculate correlation factors between two types of vectors—one type representing an individual consumer's probabilistic demographics and/or product preferences and the other type representing discretionary characteristics of the advertisements' target audiences. *See* Exhibit 1, col.2, ln.66-col.3, ln.5. The method then chooses the particular advertisement to be presented to the consumer based on the correlation factor. *See* Exhibit 1, col.3, lns.6-25. Expanse alleges in this suit that Catalina infringes the following claims (terms that Catalina contends require construction are in bold, and where appearing for the first time, underlined):

17. A **computer implemented method** for selecting a targeted **advertisement** for a consumer by **comparing a profile** of the consumer which is generated from **multiple transactions** of the consumer to a **profile** of each of a plurality of **advertisements**, wherein each **advertisement profile** identifies **discretionary characteristics of an intended target market** of the **advertisement**, the method comprising:

**receiving the advertisement profile** for the **advertisement**;  
 retrieving the consumer **profile**, wherein the multiple transactions used to generate the consumer **profile** include purchases of the consumer from multiple points-of-sale;  
 calculating a **correlation factor** between the **advertisement profile** and the consumer **profile** as a **scalar product** of the **consumer profile** and the **advertisement profile**; and  
**selecting the targeted advertisement to present to the consumer responsive to said calculating a correlation factor.**

19. The method of claim 17, wherein said retrieving the **consumer profile** includes

retrieving a **detailed transaction record**, wherein the detailed **transaction record** includes an inventory of each of the **multiple transactions** which occurred over a predetermined time interval;  
 and  
 generating the consumer **profile** from the **detailed transaction record**.

20. The method of claim 19, wherein said retrieving the consumer

**profile** further includes retrieving a **set** of heuristic rules associated with **transactions** within the **detailed transaction records**,

the **set of heuristic rules defining a probabilistic measure of demographic characteristics** of a person performing the **transactions**, and

said generating the consumer **profile** includes generating the consumer **profile** based on the **detailed transaction record** and the **set** of heuristic rules.

## B. OVERVIEW OF THE '348 PATENT CLAIMS

The '348 patent is directed to a method for creating a profile of individual consumers based on their historical purchases. *See* Exhibit 15, Abstract. The method of the '348 patent uses historical purchase records of the consumer, along with a set of heuristic rules defining a probabilistic measure that a consumer who purchased a particular product has certain demographic characteristics, to create the profile for the consumer. *See* Exhibit 15, col.2, lns.48-60. Expanse alleges in this suit that Catalina infringes the following claims (terms that Catalina contends require construction are in bold, and where appearing for the first time, underlined):

1. A **computer implemented method** for generating a **profile** of a consumer based on multiple purchases made by the **consumer** that are accumulated in **detailed purchase records** of the consumer, the method comprising:

retrieving the **detailed purchase records**;

retrieving **product characterization information associated with products included in the detailed purchase records**, wherein the product characterization information includes a **set** of heuristic rules **defining a probabilistic measure of demographic characteristics** of a purchaser of a product; and

generating a **profile** of the consumer based on the **detailed purchase records** and the product characterization information, wherein the **profile** of the consumer includes a **demographic profile** of the consumer generated from the **detailed purchase records** and the **set** of heuristic rules.

8. The method of claim 1, wherein said generating a **profile** of the

consumer includes generating a product preference **profile** of the consumer based on the **detailed purchase records**.

17. A **computer implemented method** for generating a **profile** of a consumer based on **transactions** performed by the consumer at multiple locations, the **transactions** being recorded and accumulated in detailed **transaction records** for the consumer, the method comprising:

retrieving the **detailed transaction records**, wherein the **detailed transaction records** include an inventory of the recorded **transactions** of the consumer; and

generating a **profile** of the consumer based on the **detailed transaction records** and a set of heuristic rules associated with **transactions** within the **detailed transaction records**, the set of heuristic rules **defining a probabilistic measure of demographic characteristics** of a person performing the **transactions**.

### C. CLAIM TERMS WITH STIPULATED MEANINGS

The parties have stipulated to the meanings of the following claim terms in both the '129 and '348 patents:

#### 1. Consumer

The parties have stipulated that term “consumer” means an individual or multiple individuals linked to a specific identifier such as a loyalty card number, or credit card number.

#### 2. Plurality of Advertisements

The parties have stipulated that “plurality” means two or more. *See* Exhibit 27. Therefore a “profile for each of a plurality of advertisements” in the '129 patent requires more than one advertisement, and consequently more than one advertisement profile.

#### 3. Retrieving

The parties have stipulated that “retrieving” means to locate data in computer storage, so it can be displayed on a screen and/or processed. *See* Exhibit 27.

#### **4. Calculating**

The parties have stipulated that “calculating” means to perform a mathematical operation. *See* Exhibit 27.

#### **5. Retrieving Detailed Purchase Records**

The parties have stipulated that “retrieving detailed purchase records” means the previously stored purchase records, including a specific identifier and an identification of the products purchased by a consumer are retrieved from computer storage to be displayed or processed. *See* Exhibit 27.

### **D. CLAIM TERMS REQUIRING CONSTRUCTION**

#### **1. Computer Implemented Method**

The term “**computer implemented method**” is found, either explicitly or by incorporation through dependency, in each of the asserted claims. This term should be construed to mean “a method, each step being performed by a computer program.”<sup>3</sup> This term has the same meaning in both the ‘129 and ‘348 patents due to the relatedness of those patents. *See Omega Eng’g*, 334 F.3d at 1334.

This construction is supported by the specifications of both patents at issue. Both patent specifications state that the “present invention can be realized as a data processing system and as a computer program” (Exhibit 1, col.4, lns. 16-17; Exhibit 15, col.3, lns.18-19 (emphasis added)) and that the diagrams in the patents do “not limit implementation of the present invention to any particular programming language.”

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<sup>3</sup> Expanse asserts that a “computer implemented method” is “a procedure or process performed on a computer,” thereby attempting to improperly expand the scope of the claim to include processes performed by a human being using a computer. *See Exhibit 4*, p.3 (construing term in claim 1 of ‘348 patent). Expanse has stipulated, however, that “retrieving detailed purchase records” means the previously stored

(Exhibit 1, col.10, lns. 4-7; Exhibit 15, col.4, lns.15-16 and col.9, lns.17-25 (emphasis added)). Similarly, the '348 patent specification states that the “present invention can be realized in a variety of programming languages” (Exhibit 15, col.9, lns.23-24 (emphasis added)).

The prosecution histories of both patents confirm Catalina’s construction of this phrase. During prosecution, the examiner rejected Expanse’s claims under 35 U.S.C. §101 (lack patentable subject matter) and §112, ¶1 (lack of enablement) because the claimed invention was not supported by a computer, machine or manufacture for performing a process.<sup>4</sup> See Exhibit 2, CAT001210. In making these rejections, the Examiner relied on the USPTO’s Examination Guidelines for Computer-Related Inventions (“Guidelines”). See Exhibit 2, CATA001209; See Exhibit 16, CAT000959. As indicated by the USPTO in these Guidelines, most computer-related inventions pertain to a programmed computer, not just a computer itself. See Exhibit 3, p.30, n.10. In determining patentability, the Examiner is supposed to “determine what the programmed computer does when it performs the processes dictated by the software (i.e., the functionality of the programmed computer).” See Exhibit 3, p.3. The Examiner’s reliance on these Guidelines indicates the Examiner believed the invention of the '129 patent was drawn to a computer program for implementing the steps of the method, not just a process performed by a human-being using a computer. Expanse did not object to the Examiner’s reliance on these Guidelines or the implication of a computer program for

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purchase records, including a specific identifier and an identification of the products purchased by a consumer are retrieved from computer storage to be displayed or processed. See Exhibit 27.

<sup>4</sup> The rejected claims included a claim for a “method for selecting an advertisement to be presented...” See Exhibit 2, CATA001185. In response, Expanse amended its claims to specify that the

implementing the claimed method contained therein. *See TorPharm, Inc. v. Ranbaxy Pharm., Inc.*, 336 F.3d 1322, 1330 (Fed. Cir. 2003) (“in ascertaining the scope of an issued patent, the public is entitled to equate an inventor’s acquiescence to the examiner’s narrow view of patentable subject matter with abandonment of the rest”). In fact, even before the Guidelines were cited by the Examiner, Expanse acknowledged that the “computer program recited in [issued claim 30] performs functionality that is similar to the method recited in [issued claim 17].” *See* Exhibit 2, CATA 1198 (emphasis added). Therefore, a computer implemented method must be a computer program, not just a process performed by a human-being using a computer.

Catalina’s construction is further supported by the fact that one of ordinary skill in the art would understand a computer implemented method to mean a computer program for carrying out each of the steps of the method, not just a process performed by a human-being using a computer.<sup>5</sup> Exhibit 25, Expert Report of Williams, ¶ 1. Further, the dictionary definition of the verb “implement,” meaning to “carry out, accomplish,” also supports Catalina’s construction that the computer program must perform the claimed method. *See* Exhibit 6, Merriam Webster, p.583.

## 2. Advertisement

The term “advertisement” is used throughout the '129 patent specification to refer to endorsement of products, but there is no specific meaning provided in the specification. Unless the patentee acts as its own lexicographer, explicitly defining claim terms in the specification or prosecution history, the ordinary meaning as understood in

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method of the '129 patent is a “computer implemented method.” *See* Exhibit 2, CATA001233-1234.

the art applies. *See Brookhill-Wilk*, 334 F.3d 1294, 1298-1299 (Fed. Cir. 2003) (“The presumption [of ordinary and customary meaning] will be over come where the patentee, acting as his or her own lexicographer, has clearly set forth a definition of the term different from its ordinary and customary meaning.”). In this case, the term “advertisement” has specialized meaning in the targeted marketing industry, referring to the endorsement of products without any coupon or redeemable offer, such as a television commercial. *See* Exhibit 29, Thissen Decl., ¶ 2.

The targeted marketing industry essentially consists of three separate areas – (1) advertising; (2) direct-to-consumer (brand) promotion; and (3) trade promotion (promotion to retailers).<sup>6</sup> *Id.*, ¶ 2. Direct-to-consumer promotional activities include production and dissemination of coupons or other redeemable discount offers, such as a printed coupon or discount code. Advertising is the endorsement as described above. These areas of targeted marketing are considered separate to those skilled in the art, each having their own budgets. *Id.*, ¶ 2, 3. Catalina’s products and services are considered by its customers to only fall within the promotional activities area and Catalina has not been successful in tapping into its clients’ advertising budgets. *See* Exhibit 28, Williams 30(b)(6) Deposition, May 4, 2004, p.80, lns.2-8. Therefore, the term “advertisement” in

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<sup>5</sup> Expanse asserts that a “computer implemented method” is “a procedure or process performed on a computer.” *See* Exhibit 4, p.3 (construing term in claim 1 of '348 patent).

<sup>6</sup> Expanse did not construe the term “advertisements” in its June 17, 2004 construction, according to the Court’s scheduling order. However, in its interrogatory response, Expanse did construe “advertisement” to mean “a coupon, solicitation, mailing or other advertisement.” *See* Exhibit 22 (construing term in claim 1 of the '129 patent). The inclusion of “coupon” in its construction is plainly contrary to the understanding of “advertisement” in the art and to the use of “advertisement” in the '129 patent.

the '129 patent means a product endorsement and does not mean a coupon or other promotional or discount offer.

This art-specific meaning is supported by the '129 patent specification where “discounts or coupon” are specifically referenced as items distinguishable from an “ads.”

When the consumer 100 is also the profiler 140, as shown in FIG.1B, access to the consumer demographic and product preference characterization is controlled exclusively by consumer 100, who will grant access to the profile in return for receiving an increased accuracy of ads, for cash compensation, or in return for discounts or coupons on goods and services.

*See Exhibit 1, col.7, lns.15-21 (emphasis added).*

Other references to “advertisement” or “ad” in the specification support the distinction between advertisement as product endorsement and coupon as redeemable discount. The specification states: “As an example, an ‘image ad’ which simply shows an artistic composition but does not directly sell a product may be very effective for young people, but may be annoying to older individuals.” *See Exhibit 1, col.8, lns.48-51 (emphasis added).* The specification also discusses different formats for advertisements, without mentioning coupon or discount. *See Exhibit 1, col.6, lns. 22-26..* Additionally, a significant aspect of the invention described in the specification related to paying consumers to view or receive advertisements, including decreased payment for viewing or receiving advertisements that are more highly correlated with the consumer’s profile. *See e.g. Exhibit 1, col.13, lns.60-63.* Nowhere does it mention the possibility of altering the value of a coupon based on its correlation with the consumer’s profile. All of these references in the specification support to use of the ordinary meaning of “advertisement,” as distinct from “coupon.”

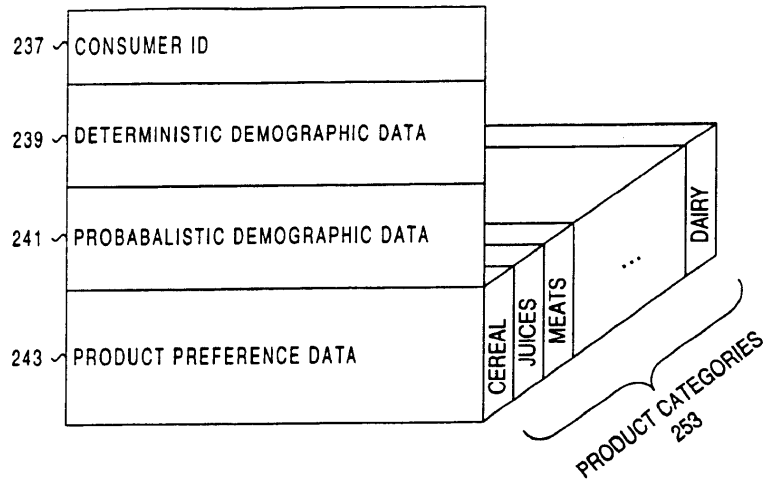


### **3. Comparing**

The computer program uses a specific mathematical operation to determine the degree of correlation between a consumer profile and each of the advertisement profiles for each of the potential advertisements. *See* Exhibit 1, Figure 9; col.4, ln.59; col.13, ln.55-col.14, ln.16-21; Figure 6B; col.4, lns.52-54; col.12, lns.3-7.

### **4. Profile**

The term “profile” in the '129 and '348 patents means multiple features or characteristics, and not merely a single characteristic. This meaning of “profile” is used consistently throughout the '129 and '348 patents to describe four types of profiles: consumer, advertisement, demographic, and product preference. For example, the '129 patent specification states that the consumer profile is comprised of multiple, stored data fields: “a data structure for storing the consumer profile, which can be comprised of a consumer ID field 237, a deterministic demographic data field 239, a probabilistic demographic data field 241, and one or more product preference data fields 243.” *See* Exhibit 1, col.8, lns.1-5.

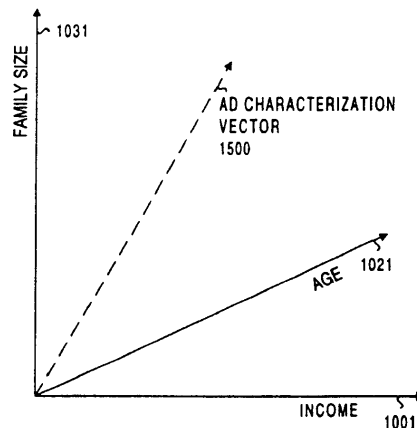


'129 AND '348 PATENTS –FIGURE2D

Similarly, the '129 patent specification states that the “ad characterization vector and consumer characterization vector can be composed of demographic characteristics [plural], product purchase records [plural], or a combination of both.” Exhibit 1, col.3, lns. 46-49 (emphasis added); *see also* Exhibit 1, col.6, ln.67-col.7, ln.3 (“Both the consumer characterization vector and the subscriber characterization vector contain demographic and product preference information which is related to consumer 100.”) (emphasis added); Exhibit 15, Abstract (“[t]he consumer profiles contain both demographic data and product preferences”).<sup>7</sup> An illustration of a consumer characterization vector (or consumer profile in vector form) is also found in Figure 10,

<sup>7</sup> The “consumer characterization vector” in the '129 patent contains the same information as the “consumer profile.” The Summary of the Invention states that a “correlation between the consumer characterization vector and the ad characterization vector is used to determine the applicability of the advertisement to the consumer,” just as the advertisement and consumer profiles are correlated in claim 17 of the '129 patent. Exhibit 1, col.2, ln.67-col.3, ln.3; claim 17. Additionally, Figure 2D is described both as illustrating “a storage structure for consumer characterization vectors” (Exhibit 1, col.4, lns.39-43) and as representing “a data structure for storing the consumer profile” (Exhibit 1, col.8, lns.1-5). This further indicates the interchangeability of “consumer characterization vector” and “consumer profile” in the '129 patent. As described below, the use of “vector” refers to the particular format for the characteristic

which shows family size, age, and income as characteristics of the consumer. *See* Exhibit 1, Figure 10, col.4, lns.60-62 (“FIG.10 illustrates a representation of a consumer characterization as a set of basis vectors and an ad characterization vector.”).



'129 AND '348 PATENTS-FIGURE 10

The '348 patent specification further states that an advantage of the invention “is that it allows consumer profiles to be updated automatically based on their purchases, and forms a description of the consumer including demographic characteristics and product preferences.” *See* Exhibit 15, col.3, lns.33-36 (emphasis added). Figures 2A and 2B, which illustrate consumer profiles based on probabilistic and deterministic data, respectively, each depict four characteristics of a consumer (age, gender, household size, and income). *See* Exhibit 15, Figures 2A and 2B, col.7, lns.1-8.

The '129 patent specification also references the term “profile” with respect to a prior art patent, Dedrick (U.S. Patent No. 5,724,521). Specifically, the '129 patent states that Dedrick “utilizes a consumer scale as the mechanism to determine to which group

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information that enables the mathematical correlation claimed.

[an] advertisement is intended... [which] requires access to specific and non-statistical personal profile information.” Exhibit 1, col.2, lns.47-55 (emphasis added). Dedrick repeatedly refers to “profile” as including multiple data points, such as age, sex, and income, or as being a “set of characteristics.” See Exhibit 21, col.2, lns.1-3; col.3, lns.35-47; col.7, lns.16-25.

The meaning of “profile,” as requiring at least two features or characteristics was confirmed during prosecution of the '348 patent. In rejecting claims of the application leading to the issuance of the '348 patent, the Examiner cited Deaton (U.S. Patent No. 5,687,322) as disclosing “the claimed feature ‘the consumer profile includes a demographic profile of the consumer’ as zip-code and marital status information useful in demographic analysis.” See Exhibit 16, CATA 000962 (emphasis added). Expanse acknowledged the Examiner’s interpretation of “profile” in its response to the Examiner’s rejection, but made no effort to correct the Examiner’s view that “profile” means at least two characteristics. Rather, Expanse responded by arguing:

[Expanse] submits that this passage [regarding zip-code and marital status information] simply describes that records for individuals may be associated with some personal information about themselves. It clearly does not disclose or suggest generating a demographic profile from heuristic rules, as required by [issued claim1].

See Exhibit 16, CATA 000984. Expanse’s sole argument for distinguishing the profile in Deaton is based on the difference between deterministic data (“the type of data that a customer would be required to enter or is the type of data that would be directly read from a customer’s check”) in Deaton and probabilistic data in '348 patent’s use of heuristic rules to create the profile. See Exhibit 16, CATA 001007. Expanse did not

argue that the Examiner was incorrect in his interpretation of “profile” nor did Expanse argue that profile means “one or more” characteristics. Expanse’s acquiescence and failure to object equates to abandonment of its presently broader interpretation that “profile” means “one or more” characteristics. *See TorPharm, Inc. v. Ranbaxy Pharm., Inc.*, 336 F.3d 1322, 1330 (Fed. Cir. 2003).

The term “profile” is similarly used to represents multiple features or characteristics, and not merely a single characteristic, of advertisements in the '129 patent. The language of claim 17 recites multiple characteristics in the profile: “profile for each advertisement identifies discretionary characteristics [plural].” Exhibit 17, claim 1. *See Brookhill-Wilk*, 334 F.3d at 1300 (“While certain terms may be at the center of the claim construction debate, the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms.”). Additionally, the specification of the '129 patent repeatedly refers to plural “characteristics” or “features” that are used to target an advertisement to an intended market. For example, the specification states that:

- it is desirable “to target an advertisement to a market having discretionary characteristics and to obtain a measure of the correlation of these discretionary features.” *See* Exhibit 1, col.2, lns. 39-44 (emphasis added).
- “there is a need for an advertisement system which can match an advertisement with discretionary target market characteristics” *See* Exhibit 1, col.2, lns. 56-58 (emphasis added).
- the “ad characterization vector and consumer characterization vector can be composed of demographic characteristics, product purchase records, or a combination of both” *See* Exhibit 1, col.3, lns. 46-49 (emphasis added).<sup>8</sup>

<sup>8</sup> The “ad characterization vector” in the '129 patent contains the same information as the advertisement “profile.” The Summary of the Invention states that a “correlation between the consumer

The repeated and consistent use of plural characteristics in the specifications and prosecution histories of the '129 and '348 patents confirms that “profile” means a plurality of distinguishing features of the target market.

This multiple characteristics construction of “profile” is also supported by the use of the term in the '010 patent to which both the '129 and '348 patents claim priority. *See Omega Eng'g*, 334 F.3d at 1333 (prosecution history of related patent relevant to claim construction). The '010 patent specification states that in “the case that the subscriber profile vector is a demographic profile, the subscriber profile vector indicates a probabilistic measure of the age of the subscriber or average age of the viewers in the household, sex of the subscriber, income range of the subscriber or household, and other such demographic data.” *See* Exhibit 18, col.4, lns.42-47 (emphasis added). This subscriber/demographic profile of the '010 patent includes at least three characteristics (age, sex, and income) and is open to additional characteristics. Additionally, Expanse described Figure 15 of the '010 patent as a subscriber “profile,” which depicts numeric probabilities of four demographic characteristics (household size, age, sex, and income). *See* Exhibit 19, CATA 000406; Exhibit 18, Figure 15. Numerous other references to profiles having multiple characteristics are found in the '010 patent. *See* Exhibit 18, col.1, lns.19-23; col. 14, lns.47-48; col. 12, lns. 60-66; col.4, lns.52-54; Figure 17.

Further evidence that “profile” means multiple characteristics is found in the prosecution history of the '010 patent. During prosecution of the '010 patent, the

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characterization vector and the ad characterization vector is used to determine the applicability of the advertisement to the consumer,” just as the advertisement and consumer profiles are correlated in claim 17 of the '129 patent. Exhibit 1, col.2, ln.67-col.3, ln.3; claim 17. As described below, the use of “vector”

Examiner cited Williams (U.S. Patent No. 5,977,964) as a basis for rejecting the claims therein. The Examiner stated that Figure 8 of the Williams patent discloses “viewers [sic] profiles.” See Exhibit 19, CATA 000389. Although not explicitly illustrated as demographic characteristics, Figure 8 of the Williams patent does illustrate a viewer profile having numerous characteristics regarding “Joe User’s” television and computer habits and preferences. See Exhibit 20, Figure 8.

| USER<br>NAME | TELEVISION |     |                |       |           | COMPUTER  |              | AUDIO<br>COMPONENTS |      |     |     |     |     |
|--------------|------------|-----|----------------|-------|-----------|-----------|--------------|---------------------|------|-----|-----|-----|-----|
|              | CH         | VOL | GENRE          | BLOCK | SUPP-PROG | INTERNET  | AUTO-FEATURE | STATIONS            | TYPE | VOL | ... | ... | ... |
| JOE<br>USER  | 2          | o   | S              | NONE  | NONE      | GAMES     | CLOCK        | 750 kHz             | J    | —   | •   | •   | •   |
|              | 5          | +   | M              | NONE  | NONE      | SPORTS    | BIRTHDAY     | 800 kHz             | P    | •   | •   | •   | •   |
|              | 7          | —   | M <sub>V</sub> | V++   | NONE      | FINANCIAL | REMINDERS    | 1.2 mHz             | R    | •   | •   | •   | •   |
|              | 11         | o   | N              | NONE  | Q         | •         | •            | 1.195 mHz           | J    | •   | •   | •   | •   |
|              | •          | •   | •              | •     | •         | •         | •            | •                   | •    | •   | •   | •   | •   |

|                        |              |
|------------------------|--------------|
| KEY:                   | VOLUME:      |
| S-SPORTS               | “+” - HIGH   |
| M-MUSIC                | “o” - MEDIUM |
| M <sub>V</sub> -MOVIES | “-” - LOW    |
| N-NEWS                 |              |
| Q-QUOTES               |              |
| P-POP                  |              |
| R-ROCK                 |              |
| J-JAZZ                 |              |

WILLIAMS PATENT-FIGURE8

In responding to the Examiner’s rejection based on Williams, Expanse did not take exception to the Examiner’s description of Figure 8 as a “profile.” In fact, Expanse agreed that Figure 8 illustrates a “profile,” and only argued against the rejection on the basis of how that profile is generated. Exhibit 19, CATA 000406. Expanse’s prosecution argument plainly adopts the Examiner’s view that a profile includes at least two characteristics. Due to these statements, Expanse is estopped from now arguing a

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refers to the particular format for the characteristic information that enables the mathematical correlation.

contrary meaning of the term “profile.” *See Omega Eng’g*, 334 F.3d at 1323 (Fed. Cir. 2003) (the doctrine of prosecution disclaimer prevents a patentee from recapturing through claim interpretation specific meanings that were disclaimed during prosecution).

The meaning of “profile” as used in the '129 and '348 patents is confirmed by the understanding of one of ordinary skill in the art that a “profile” requires two or more significant characteristics of a consumer, where the characteristics are determined by the computer program processing records of multiple items purchased by the consumer. *See* Exhibit 25, Expert Report of Williams, ¶ 3; Exhibit 29, Thissen Decl., ¶ 9. The ordinary meaning of “profile,” as in “profile of the consumer” or “consumer profile,” means a plurality of distinguishing features of the subject consumer, not a single characteristic.<sup>9</sup> *See* Exhibit 25, Expert Report of Williams, ¶ 3; Exhibit 29, Thissen Decl., ¶ 9. The term “profile” as used in the art of the '129 patent has the same meaning to one of ordinary skill in the art as its general purpose definition. *See* Exhibit 25, Expert Report of Williams, ¶ 3; Exhibit 29, Thissen Decl., ¶ 7. The general purpose dictionary definition of “profile” most relevant to the '129 patent is “5. A formal summary or analysis of data representing distinctive features or characteristics.” *See* Exhibit 5, American Heritage Dictionary of the English Language, Fourth Edition 2004 Houghton Mifflin Company, p. 1112 (hereinafter “American Heritage”) (emphasis added). “Profile” is also defined, relevant to the '129 patent, as “4: a set of data often in graphic form portraying the

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<sup>9</sup> Expanse claims that profile of the consumer “means one or more significant features or characteristics of a consumer.” *See* Exhibit 4, p.3 (construing term in claim 1 of '348 patent) (emphasis added). The parties do not dispute that “profile” refers to significant distinguishing characteristics or features; however the parties do dispute the number of features or characteristics required to make-up a “profile.” Expanse’s construction is contrary to the ordinary meaning of “profile,” which requires a plurality of (at least two) characteristics or features.



significant features of something <a corporation's earnings ~>; esp: a graph representing the extent to which an individual exhibits traits or abilities as determined by tests or ratings."<sup>10</sup> See Exhibit 6, Merriam Webster's Collegiate Dictionary, Tenth Edition 1995, p. 931 (hereinafter "Merriam Webster's") (emphasis added). These definitions indicate that the ordinary meaning of "profile" requires more than one characteristic or feature – a set of data points representing at least two characteristics or features. Therefore, the consumer profile must include at least two distinguishing characteristics of an individual consumer within the target market.

### 5. Multiple Transactions and Detailed Transaction Records

The term "multiple transactions" would be understood by one of ordinary skill in the art of the '129 and '348 patents to mean multiple items purchased by the consumer. Exhibit 25, Expert Report of Williams, ¶ 4. Expanse asserts that "multiple transactions" means "more than one purchase, which can be accomplished either by purchasing multiple items in one shopping trip, or a [sic] purchasing a single item on multiple shopping trips."<sup>11</sup> See Exhibit 4, p.5. Under either scenario in Expanse's construction, multiple transactions equates to multiple items purchased. Moreover, Expanse has construed "detailed transaction records" in claim 19, which is dependent on claim 17, to mean "records containing information regarding the specific purchases (i.e. may include product UPC code, as well as information about quantity, where and/or when

<sup>10</sup> The other definitions of "profile" in Merriam Webster's are similar to those in American Heritage, and are likewise inapplicable to the '129 patent in context. See Exhibit 6, Merriam Webster's, p.931.

<sup>11</sup> As explained in more detail below, Expanse's construction of "multiple transactions" as including "purchasing multiple items in one shopping trip" is inconsistent with the later claim element regarding purchases from multiple points of sale (i.e. multiple locations). Purchases from one shopping trip cannot be made at multiple locations.

purchased).”<sup>12</sup> This further indicates that Expanse agrees that “transaction” equates to a specific item purchased by the consumer, such as one that may be identified by its specific UPC number. Additionally, purchase and transaction were referred to interchangeably during prosecution of the related '348 patent. *See* Exhibit 16, CATA 001015.

One of ordinary skill in the art of the '129 patent would understand the terms “detailed” and “record” to have their ordinary, general purpose meanings. *Id.* The meaning of “detailed” is “marked by abundant detail or by thoroughness in treating small items or parts.” *See* Exhibit 6, Merriam Webster, p.315; Exhibit 5, American Heritage, p. 386. *See* Exhibit 25, Expert Report of Williams, ¶ 20. The reference to abundant detail requires at least three pieces of information. *See* Exhibit 25, Expert Report of Williams, ¶ 20. The meaning of “record” relevant to the '129 patent is “a collection of related items of information (as in a database) treated as a unit.” *See* Exhibit 6, Merriam Webster, p. 977; Exhibit 5, American Heritage, p. 1163; *See* Exhibit 25, Expert Report of Williams, ¶ 20. Therefore, a “detailed transaction record” would mean stored collections of at least three pieces of information regarding each specific item purchased by the consumer. *See* Exhibit 25, Expert Report of Williams, ¶ 20.

An example of a “detailed record” containing four types of information is found in Figure 6 of Expanse’s '010 patent (the parent of the '129 and '348 patents) and Expanse’s U.S. Patent Application Serial No. 09/204,888 (the '888 application, which is

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<sup>12</sup> Expanse similarly construed “transactions performed by the consumer at multiple locations” and “detailed transaction records” in claim 17 of the '348 patent to mean “purchases by the consumer at more than one point of sale” and “records containing information regarding the specific purchases (i.e. may include the product UPC code, as well as information about quantity, where and/or when purchased,”

incorporated by reference in both the '129 and '348 patents). *See* Exhibit 18, Figure 6; Exhibit 17, Figure 6 and EXP 010013 (“A detailed record of selection data is illustrated in FIG.6.”); Exhibit 1, col.6, lns.60-67; Exhibit 15, col.6, lns.25-32; *see also*, *Intergraph Corp. v. Intel Corp.*, 89 Fed. Appx. 218, 225-226 (Fed. Cir. 2004) (patent application incorporated by reference in patent at issue is relevant to claim construction).

| 602<br>TIME | 604<br>CHANNEL ID | 603<br>PROGRAM TITLE   | 601<br>VOLUME |
|-------------|-------------------|------------------------|---------------|
| 08 01:25AM  | 08                | "MORNING TV"           | 5:10          |
| 08 01:45AM  | 13                | "GOOD MORNING AMERICA" | 5:10          |
| 08 03:25AM  | 13                | "GOOD MORNING AMERICA" | 6:10          |
| 08 11:25PM  | 09                | "SEINFELD"             | 5:10          |
| 08 15:25PM  | 09                | "ADVERTISING"          | 5:10          |
| 08 17:25PM  | 09                | "SEINFELD"             | 5:10          |
| 08 28:10PM  | 09                | "ADVERTISING"          | 5:10          |
| 08 30:07PM  | 52                | "LIVING SINGLE"        | 5:10          |

'888 APPLICATION-FIGURE6

'010 PATENT-FIGURE6

## 6. Discretionary Characteristics

The phrase “discretionary characteristics of an intended target market” appears, either explicitly or through dependence, in all of the asserted claims of the ‘129 patent. Expanse has not construed “discretionary characteristics” in its June 17, 2004 claim construction pursuant to the Court’s scheduling order. However, in its interrogatory claim construction, Expanse construed “discretionary characteristics” as meaning “traits left or regulated by one’s own judgment.” *See* Exhibit 22. Catalina is entitled to rely on

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respectively. *See* Exhibit 4, p.4.

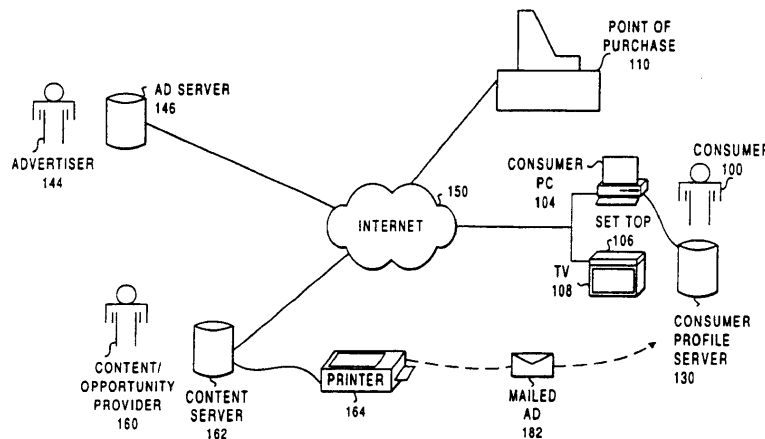
Expanse's verified interrogatory responses, including this definition of discretionary characteristics. Moreover, Expanse's construction is consistent with the ordinary meaning of discretionary. The ordinary meaning of "discretionary" is "individual choice or judgment" and "power of free decision." *See* Exhibit 6 Merriam Webster, p. 332; Exhibit 5, American Heritage, p. 405.<sup>13</sup> Therefore, discretionary characteristics means "characteristics or features that are a matter of choice for the individuals within the target market." Examples of discretionary characteristics as characteristics of choice include children, income, and residence location, but does not include characteristics that are not subject to choice (age, gender, race/ethnicity).

## 7. Receiving

The advertisement profiles of the '129 patent are received via electronic transmission from an advertiser. *See* Exhibit 25, Expert Report of Williams, ¶ 6. Figure 1B of the '129 patent, which "show[s] user relationship diagrams for the present invention," illustrates the advertiser 144 sending an ad profile via ad server 146 over the Internet to the content provider's server 162, which then prints and mails the appropriate advertisement to the consumer. *See* Exhibit 1, Figure 1B, col.4, lns.37-38.

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<sup>13</sup> These definitions stem from "discretion." The definition of "discretionary" is "left to discretion." *See* Exhibit 6, Merriam Webster, p. 332.



'129 PATENT-FIGURE1B

Electronic receipt of the advertisement profile is confirmed by Figure 6B, which describes the claimed method as including steps with instructions to “read” the ad demographic vector, ad product category, and ad product preference vector. *See* Exhibit 1, Figure 6B; *See* Exhibit 25, Expert Report of Williams, ¶ 7. The term “read” in computer science means “8 a: to acquire (information) from storage; esp.: to sense the meaning of (data) in recorded and coded form—used of a computer or data processor.” Exhibit 6, Merriam Webster, p.972; *see also* Exhibit 5, American Heritage, p. 1159 (“15 *computer science* To obtain (information) from a storage medium”); Exhibit 25, Expert Report of Williams, ¶ 7. These meanings further indicate that advertisement profile information is received in electronic, coded form that is capable of being read by the computer program.

## 8. Correlation Factor

The ordinary meaning of “correlation factor” is a numeric value mathematically determined by the computer program that represents the degree of correspondence

between the characteristics in the consumer and advertisement profiles. *See* Exhibit 25, Expert Report of Williams, ¶ 17. The term “correlation” as used in the art of the '129 patent has the same meaning to one of ordinary skill in the art as its general purpose definition. *See* Exhibit 25, Expert Report of Williams, ¶ 13. That meaning is “the state or relation of being correlated; *specif*[specifically]: a relation existing between phenomena or things or between mathematical or statistical variables which tend to vary, be associated, or occur together in a way not expected on the basis of chance alone.” *See* Exhibit 6, Merriam Webster, p. 260 (emphasis in original); Exhibit 5, American Heritage, p. 321; Expert Report of Williams, ¶ 13. This meaning is supported by the specification of the '129 patent, which also describes correlating the ad and consumer profiles (or characterization vectors) to determine the suitability or applicability of a particular ad for a particular consumer in the target market:

- “The consumer ID is used to retrieve a consumer characterization vector, and the correlation between the consumer characterization vector and the ad characterization vector is used to determine the applicability of the advertisement to the consumer. The price to be paid for presentation of the advertisement can be determined based on the degree of correlation.” Exhibit 1, col.2, ln.67-col.3, ln.5.
- “The individual measurements of correlation as represented by the correlation vector can be utilized in determining the applicability of the advertisement to the subscriber, or a sum of correlations can be generated to represent the overall applicability of the advertisement.” Exhibit 1, col.12, lns.46-50.
- “The consumer profiling system 500 performs a correlation and determines the extent to which the ad target market is correlated with the estimated demographics and product preferences of consumer 100.” Exhibit 1, col.14, lns.16-21; *see also*, Exhibit 1, Abstract; Exhibit 1, col.3, lns.50-54.

The term “factor” as used in the art of the '129 patent has the same meaning to one of ordinary skill in the art as its general purpose definition applicable to mathematics.

See Exhibit 25, Expert Report of Williams, ¶ 14. “Factor” means “4 a. any of the numbers or symbols in mathematics that when multiplied together form a product,” such as a “scalar product” in the claim language itself.<sup>14</sup> See *Id.*; Exhibit 6, Merriam Webster, p. 416; Exhibit 5, American Heritage, p. 498. The term “factor” is also used in the specification of the '129 patent to refer to a number: “the pseudocode in FIG. 6A utilizes a weighting factor which determines the importance of that product purchase with respect to all of the products purchased... the weight is computed as the ratio of total products purchased with a particular product ID 514 purchased at that time, to the product total purchase, which is the total quantity of the product identified by its product ID 514.” See Exhibit 1, col.11, lns.27-35 (emphasis added).<sup>15</sup>

### 9. Scalar Product

A “scalar product,” also referred to as a “dot product,” is a well known, two-word mathematical term typically used in calculus and analytic geometry, engineering, physics and 3D graphics that refers to a mathematical calculation performed on vectors. See Exhibit 25, Expert Report of Williams, ¶ 16. The standard dictionary definition of the term “scalar product” is “a real number that is the product [multiplication] of the lengths of two vectors and the cosine of the angle between them.” Exhibit 6, Merriam Webster, p. 1041. That ordinary meaning of “scalar product” is confirmed by the definition in

<sup>14</sup> Other definitions of “factor,” such as broker and gene, are not applicable to the '129 patent in context. See Exhibit 6, Merriam Webster, p. 416; Exhibit 5, American Heritage, p.\_\_\_\_; Expert Report of Williams, ¶ 14.

<sup>15</sup> Claims 4-6, which recite the same “calculating a correlation factor” element, also support this construction of “factor.” These claims further recite that the price to present the targeted advertisement is a “function,” or increasing or decreasing monotonic function, of the correlation factor. One of ordinary skill in the art of the '129 patent would understand this to refer to a mathematical correspondence between the price and correlation factor. For instance as the numeric value of the correlation factor increases, so does the numeric value of the price. See Exhibit 25, Williams Report, ¶A15.

standard college calculus and analytic geometry textbooks, which describe “scalar product” as the multiplication of vectors. “Thus, to find the scalar product of two given vectors, we simply multiply their corresponding components together and add the results.” Exhibit 32. The dictionary and math definitions are also reflected in engineering textbooks as well. Exhibits 33-34.

One of ordinary skill in the art of the ‘129 would understand “scalar product,” as a two-word mathematical term that has its general purpose dictionary and math textbook definition. *See* Exhibit 25, Expert Report of Williams, ¶ 16. Dr. Eldering, the inventor of the ‘129 and Expanse’s sole infringement expert’s own testimony confirms the definition of scalar product as described above. Dr. Eldering testified that:

- Q: Do you know how to obtain the scalar product of two vectors mathematically?
- A: Yes, I do.
- Q: How do you do that?
- A: The scalar product would be obtained by multiplying the individual components of the vector and summing the result of those multiplications.

*See* Exhibit 9, Deposition of Eldering, p. 95:22-96:6; *see also*, Exhibits 10, 11, 23, 24, 26.

An example of this calculation is illustrated below:

$$\text{Let } \vec{u} = \begin{bmatrix} u_1 \\ u_2 \\ \vdots \\ u_n \end{bmatrix}, \vec{v} = \begin{bmatrix} v_1 \\ v_2 \\ \vdots \\ v_n \end{bmatrix} \text{ be vectors}$$



- The dot product of  $\vec{u}$  with  $\vec{v}$  is the scalar  $\vec{u} \cdot \vec{v} = u_1v_1 + \dots + u_nv_n$ . For example, if  $\vec{u} = \begin{bmatrix} -2 \\ 1 \\ 4 \\ 0 \end{bmatrix}$ ,  $\vec{v} = \begin{bmatrix} 5 \\ 2 \\ 0 \\ 3 \end{bmatrix}$ , then  $\vec{u} \cdot \vec{v} = (-2)(5) + (1)(2) + (4)(0) + (0)(3) = -8$ .

From this example, it is clear that a dot product, or scalar product, involves multiplication and addition of numeric values (i.e. the value assigned for the consumer and advertisement characteristics, such as -2, 1,... and 5, 2,... in the example) to arrive at a numeric result (i.e. the numeric correlation factor, such as -8 in the example).

Further, Appendix E attached to Dr. Eldering's expert report contains a calculation of a hypothetical scalar product (in the same form as the example above and consistent with his deposition testimony confirming the ordinary meaning of the term) in connection with Catalina Marketing's One-to-One Direct product. Exhibit 35. That Appendix is further support that this Court should construe "scalar product" in accordance with its dictionary definition.

The specification also supports this construction with repeated and consistent references to scalar or dot product of two vectors for calculating the correlation factor claimed:

- "Another advantage of the present invention is that the correlation can be performed by calculating a simple scalar (dot) product of the ad characterization and consumer characterization vectors." Exhibit 1, col.4, lns.10-13.
- "In a preferred embodiment the correlation process involved computing the dot product between vectors. The resulting scalar is the correlation between the two vectors." Exhibit 1, col.12, lns.12-14.
- "In a preferred embodiment of the present invention the correlation is calculated as the scalar product of the ad characterization vector

and the consumer characterization vector.” Exhibit 1, col.3, lns.43-46.

Additionally, the specification repeatedly and consistently describes organizing (or indexing) the characteristics of the vector representing the consumer profile with like characteristics in the advertisement profile so that the scalar product can be calculated. In order to calculate the scalar product, the consumer profile and each advertisement profile must be in the form of vectors containing numerical values for each of the multiple characteristics in the profiles, like  $\{u_1, u_2, \dots u_n\}$  and  $\{v_1, v_2, \dots v_n\}$  illustrated above. See Exhibit 25, Expert Report of Williams, ¶ 10. Additionally, to be useful, the data components of the consumer profile must be indexed or positioned in the vector the same as corresponding characteristics in the advertisement profile (i.e. the values for family size must be paired in the  $u_1$  and  $v_1$  positions; values for income paired in the  $u_2$  and  $v_2$  positions, etc.). The specification describes this indexing or organization:

- In a preferred embodiment, the consumer and ad characterization vectors “have a standardized format, in which each demographic characteristic and product preference is identified by an indexed position and thus represent coordinates in n-dimensional space, with each dimension representing a demographic or product preference characteristic.” Exhibit 1, col.9, lns.26-34
- “In an alternate embodiment the demographic and product preference parameters are grouped to form sets of paired scores in which elements in the consumer characterization vector are paired with corresponding elements of the ad characteristics vector.” Exhibit 1, col.12, lns.58-62.
- “When the consumer characterization vector and the ad characterization vector are not in a standardized format, a transformation can be performed to standardize the order of the demographic and product preferences, or the data can be decomposed into sets of basis vectors which indicate particular attributes such as age, income, or family size.” Exhibit 1, col.12, ln.66-col.13, ln.4; *see also*, Exhibit 1, col.8, lns.25-31

Although this indexing or paired organization of characteristics making-up the vectors is described as something that “can” be used according to the invention or as part of a “preferred” or “alternate” embodiment, it is an inherently functional requirement of calculating the correlation factor (described above) as a scalar product. If indexing or organization by category is not used, the calculated correlation factor would likely compare, for instance, the family size in the consumer characterization vector with income in the ad characterization vector (resulting in a meaningless correlation), rather than comparing family size with family size and income with income. *See* Exhibit 12, Section I.B.5 (Expanse document illustrating correlation of household income to household income).

Examples of advertisement characterization vectors, in column vector format, are included in Expanse documents illustrating the process for calculating the scalar or dot product to correlate an advertisement profile with a consumer profile. *See* Exhibits 12 and 26.

$$\begin{array}{c}
 \text{AD CHARACTERIZATION} \\
 \text{VECTOR} \\
 \text{(E.G. HOUSEHOLD INCOME)} \\
 \begin{bmatrix} 0 \\ 0 \\ 1 \\ 0 \\ 0 \end{bmatrix}
 \end{array}
 \cdot
 \begin{array}{c}
 \text{CONSUMER CHARACTERIZATION} \\
 \text{VECTOR} \\
 \text{(E.G. HOUSEHOLD INCOME)} \\
 \begin{bmatrix} 0.2 \\ 0.2 \\ 0.4 \\ 0.1 \\ 0.1 \end{bmatrix}
 \end{array}
 =
 \begin{array}{c}
 \text{DEMOGRAPHIC} \\
 \text{CORRELATION} \\
 0.4
 \end{array}$$

EXHIBIT 12

Sample dot products are shown below.

$$\begin{bmatrix} 0.10 \\ 0.20 \\ 0.30 \\ 0.40 \end{bmatrix} \cdot \begin{bmatrix} 0.20 \\ 0.20 \\ 0.20 \\ 0.20 \end{bmatrix} = 1.00$$

$$\begin{bmatrix} 0.10 \\ 0.20 \\ 0.30 \\ 0.40 \end{bmatrix} \cdot \begin{bmatrix} 0.1 \\ 0.2 \\ 0.3 \\ 0.0 \end{bmatrix} = 0.50$$

EXHIBIT 26

### 10. Selecting the Targeted Advertisement to Present to the Consumer

One of ordinary skill in the art would understand this element to require that the computer program selects one particular advertisement, out of the multiple advertisements profiled, that has the best match to the consumer profile so that the particular advertisement may be sent to that particular consumer. *See* Exhibit 25, Expert Report of Williams, ¶ 18. That “best match” is determined by the numeric value of the correlation factor, the advertisement with the highest numeric value for the correlation factor is selected. *Id.* The specification of the '129 patent does not include any description or examples of how the selection process is performed. *Id.* However, one of ordinary skill in the art would interpret the “selecting” step to mean that the advertisement with the highest correlation value is the advertisement selected for delivery to the particular consumer under consideration. *Id.* In the context of the specification of the '129 patent, one of ordinary skill in the art would understand that a best match selection is inherently required for the process to be useful. *Id.*

### 11. Set

One of ordinary skill in the art of the '129 and '348 patents would understand the term “set” to have its general purpose meaning of a “group of things of the same kind that belong together and are so used.” *See* Exhibit 5, American Heritage, p. 1269;<sup>16</sup> Exhibit 6, Merriam Webster, p.1071-1072; Exhibit 25, Expert Report of Williams, ¶ B8. Therefore, a “set of heuristic rules” in the claims of the '129 and '348 patents requires that there be at

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<sup>16</sup> Other definitions of “set,” such as the “scenery construction for a theatrical performance” and “ a session of music, typically dance music, played before an intermission,” are not applicable in the context of the '348 patent. *See* Exhibit 5, American Heritage.

least two heuristic rules.<sup>17</sup> Consistent with the ordinary meaning of the term “set,” the claim language itself specifies that the heuristic rules are indeed plural rules. *See* Exhibit 1, claim 20.

This ordinary meaning of “set” is further evident from the specification of the '129 patent. Figure 7 of both the '129 and '348 patents “illustrates heuristic rules,” depicting two rules related to the purchase of diapers (bottom chart). *See* Exhibit 1, col.4, ln.55 and Figure 7. The first rule provides a relationship between quantity of diapers purchased per month with estimated household size and the second rule provides a relationship between quantity of diapers purchased per month and estimated number of children under the age of five. Figure 7 also “illustrates an example of heuristic rules including rules for defining a product demographics vector” as depicted in the upper, left chart. The products demographics vector contains at least two rules providing probabilities for both household income and household size for a given product ID. Figure 7 is reproduced below:

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<sup>17</sup> Expanse asserts that “a set of heuristic rules” means “one or more rules that have been determined from learning, discovery, experiments or trial and error, inferences, educated guesses, market studies, human knowledge, experience or calculations.” *See* Exhibit 4, p.5 (emphasis added). Once again the parties dispute the quantity required by the claim language. The ordinary meaning requires there be at least two rules for each product, not one or more rules.

## PRODUCT DEMOGRAPHICS VECTOR

|                  |        |     |
|------------------|--------|-----|
| PRODUCT ID       |        |     |
| HOUSEHOLD INCOME | ≤20K   | 0.2 |
| HOUSEHOLD INCOME | 20-40K | 0.3 |
| ⋮                |        |     |
| HOUSEHOLD SIZE   | 0-2    | 0.1 |
| HOUSEHOLD SIZE   | 2-4    | 0.3 |

## PRODUCT CHARACTERISTICS

PRODUCT ID: 2597251  
 BRAND: KELLOGG'S CORN FLAKES  
 SIZE: 32 OZ  
 PRICE: \$2.69

## PRODUCT DEMOGRAPHICS RULES

| MONTHLY QUANTITY<br>OF DIAPERS PURCHASED | ESTIMATED<br>HOUSEHOLD SIZE | ESTIMATED #<br>OF CHILDREN <5 |
|--|-----------------------------|-------------------------------|
| >300                                     | >5                          | ≥3                            |
| 150-300                                  | 3-5                         | 2-3                           |
| 50-150                                   | 3-4                         | 1-2                           |
| 1-50                                     | 3-4                         | 1                             |

## HEURISTIC RULES

'129 PATENT-FIGURE 7

## 12. Defining a Probabilistic Measure

The set of heuristic rules claimed have the purpose of “defining a probabilistic measure of demographic characteristics of a person performing the transactions.” See Exhibit 1, claim 20. One of ordinary skill in the art would understand these terms to have their general purpose meaning, which is to distinctly specify the numeric probability of demographic characteristics. Exhibit 25, Expert Report of Williams, ¶ B9. The word “define” has several meanings; however, the most appropriate meanings in the context of the '129 patent are to “describe the nature or basic qualities of; explain: *define the properties of a new drug; a study that defines people according to their incomes,*” “to state the precise meaning of” and “to specify distinctly.” See Exhibit 5, American

Heritage, p. 371 (emphasis in original); Exhibit 6, Merriam Webster, p. 303; Exhibit 25, Expert Report of Williams, ¶ B10.<sup>18</sup> The specification of the '129 patent states that Figure 7 “illustrates an example of heuristic rules including rules for *defining* a product demographics vector.” See Exhibit 1, col.13, lns.5-6 (emphasis added). Figure 7 plainly illustrates specific and distinct probabilities for particular qualities associated with a product, such as 20% probability for household income less than \$20,000 and 10% probability for household size of 0-2, which defines demographic characteristics of the purchaser that particular product.

PRODUCT DEMOGRAPHICS VECTOR

|                  |        |     |
|------------------|--------|-----|
| PRODUCT ID       |        |     |
| HOUSEHOLD INCOME | ≤20K   | 0.2 |
| HOUSEHOLD INCOME | 20-40K | 0.3 |
| ⋮                |        |     |
| HOUSEHOLD SIZE   | 0-2    | 0.1 |
| HOUSEHOLD SIZE   | 2-4    | 0.3 |

'348 PATENT—FIGURE7 (PARTIAL)

The terms “probabilistic” and “measure” considered together mean a numeric value representing the probability or likelihood of demographic characteristics. Expert Report of Williams, ¶ B11. “Probabilistic” means “of, based on, or affected by probability, randomness, or chance.” See Exhibit 5, American Heritage, p. 1110; Exhibit 6, Merriam Webster, p. 928. The term “probability” is commonly understood to refer to the “likelihood that a given event will occur.” See Exhibit 5, American Heritage, p.

<sup>18</sup> The term “define has similar meanings in Merriam Webster’s dictionary, including “to determine or identify the essential qualities or meaning of” and “characterize, distinguish.” See Exhibit 6, Merriam Webster, p. 303. Other definitions that relate to an outline of a form, such as to “delineate the outline or form of” are not relevant in the context of the '129 patent. See Exhibit 5, American Heritage; Exhibit 6,

1110; Exhibit 6, Merriam Webster, p.928. The term “measure” means “[d]imensions, quantity, or capacity as ascertained by comparison with a standard” and “magnitude as determined by measurement or calculation.” *See* Exhibit 5, American Heritage, p. 859; Exhibit 13, WordNet; Merriam-Webster, p. 720.<sup>19</sup> Therefore, the combined term “probabilistic measure” means the numeric value representing the likelihood of demographic characteristics.

This meaning of probabilistic measure is confirmed by the specification of the '129 patent, which repeatedly and consistently refers to “probabilistic” with specific numeric probability values. For instance, Figure 2A illustrates “a probabilistic demographics characterization vector,” depicting numeric values of probability, such as 0.2 (20%), 0.4 (40%), 0.6 (60%), etc. *See* Exhibit 1, Figures 2A and col.7, lns.22-23. Referring to the embodiments depicted in Figures 2A-C, “a single value represents one probabilistic or deterministic value (e.g. the probability that the consumer is in the 18-24 year old age group, or the weighting of an advertisement to the age group).” *See* Exhibit 1, col.9, lns.34-38.<sup>20</sup>

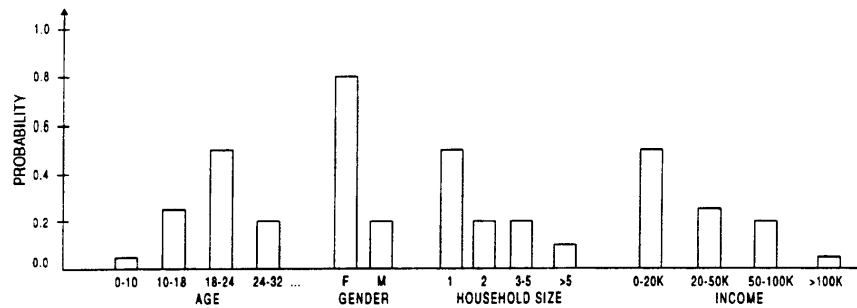
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Merriam Webster, p. 303.

<sup>19</sup> The term “measure” also has several other similar meanings referring to a quantity. *See* Exhibit 5, American Heritage; Exhibit 13 WordNet; Exhibit 6, Merriam Webster, p.720. Other meanings of “measure,” such as a “legislative bill or enactment” and “melody, tune” are not relevant in the context of the '348 patent. *See* Exhibit 5, American Heritage; Exhibit 13, WordNet; Exhibit 6, Merriam Webster, p.720

<sup>20</sup> The term “value” relevant herein means “a numerical quantity that is assigned or is determined by calculation or measurement.” *See* Exhibit 6, Merriam Webster, p.1305 (emphasis added). “Value” is used in the specification of the '348 patent to refer to numbers. *See e.g.* Exhibit 15, col.7, lns.46-52; col.8, lns.35-38.





'129 PATENT- FIGURE2A

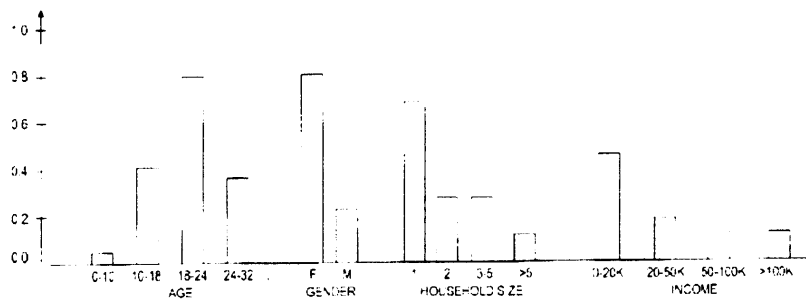
Additionally, the specifications of the '129 and '348 patents repeatedly and consistently refer to “measure” or “measurement” as a numeric value:

- “The projections on the basis vectors form a set of data which represent the corresponding values for the parameter measured in the basis vector.” See Exhibit 1, col.12, lns.31-33 (emphasis added). The use of “values” for measured parameters indicates numeric values.
- “The individual measurements of correlation as represented by the correlation vector can be utilized in determining the applicability of the advertisement to the subscriber, or a sum of correlations can be generated to represent the overall applicability of the advertisement. In a preferred embodiment individual measurements of the correlations, or projections of the ad characteristics vector on the consumer basis vectors, are not made available to protect consumer privacy, and only the absolute sum is reported.” See Exhibit 1, col.12, lns.45-55 (emphasis added). The measurements of correlation must refer to numeric values, otherwise there could be no “sum.”
- “[C]umulative product purchase amount can be measured as the amount spent on a particular category of items (e.g. groceries, clothes, accessories) over a given period of time such as one month or one year.” See Exhibit 15, col.3, lns.1-4 (emphasis added). The measurement of amount spent refers to a numeric dollar amount spent by the consumer over a period of time. See also, Exhibit 1, col.12, lns.38-45.

Accordingly, the “probabilistic measure” in the claims of the '129 and '348 patents must be a numeric value between 0.0-1.0 (such that 1=100%, 0.2=20%, etc.) or expressed as a percentage (such as 100%, 20%, etc.) representing the likelihood of a characteristic.

This construction is further supported by use of the terms probabilistic and measurement in the '010 patent, to which the '129 patent claims priority.

- “In the case that the subscriber profile vector is a demographic profile, the subscriber profile vector indicates a probabilistic measure of the age of the subscriber or average age of the viewers in the household, sex of the subscriber, income range of the subscriber or household, and other such demographic data. Such information comprises household demographic characteristics and is composed of both average and session values. Extracting a single set of values from the household demographic characteristics can correspond to a subscriber profile vector.” See Exhibit 18, col.4, lns.42-51 (emphasis added). The use of “values” and “average” for measured parameters indicates numeric values.
- “The values contained in the dot products 814, 816 and 818, while not probabilistic in nature, can be expressed in probabilistic terms using a simple transformation in which the result represents a confidence level of assigning the corresponding content to that program. The transformed values add up to one.” Exhibit 18, col.10, lns.26-32 (emphasis added). Although the dot products discussed result in numeric values (by the definition of dot product, as explained above with respect to “scalar product”), those values would not be expressed in terms of probability of 0-1 (or 0-100%) without some mathematical transformation. Once transformed into probabilistic values, the dot product results are expressed in terms that add up to a value of 1 (or 100%).
- “FIG. 12 illustrates an example of the program demographic vector 170, and shows the extent to which a particular program is destined to a particular audience. This is measured in terms of probability as depicted in FIG. 12. The Y-axis is the probability of appealing to the demographic group identified on the X-axis.” Ex18, col.12, lns.36-42 (emphasis added). Figure 12 of the '010 patent plainly illustrates numeric probability measurements.



'010 PATENT-FIGURE12

*See also*, Exhibit 18, col.13, lns.21-27; Exhibit 18, Figures6-7; Exhibit 18, col.10, lns.44-47; Exhibit 18, col.12, lns. 17-24.

### 13. Demographic Characteristics

“Demographic characteristics” means plural characteristics such as age, income, race, gender and household size and makeup, and interest areas, such as music and travel. *See* Exhibit 1, col.7, lns.23-35.

As the demographic characteristics are generated from the purchase records in the '129 and '348 patents, probabilistic (rather than deterministic or information provided directly by the consumer, as in a questionnaire) characteristics are required. The probabilistic nature of the demographic characteristics is confirmed by the claim language that the heuristic rules define a “probabilistic measure” of demographics. The requirement of probabilistic data was emphasized by Expanse during prosecution of the '348 patent. Expanse distinguished the invention of the '348 patent from that of Gerace (U.S. Patent No. 5,848,396), which was cited against the '348 patent, on the basis of Gerace involving deterministic demographic data entered by the user, rather than generated probabilistic data. Expanse argued:

In fact, *Gerace* discloses demographic data about a user being entered by the user in user object 37a. Furthermore, even assuming arguendo that *Gerace* discloses or suggests generating demographic data for a user, there is clearly no disclosure or suggestion of generating the demographic data from a set of heuristic rules that defines a probabilistic measure of the demographics characteristics of the consumer as required by claim 23.<sup>21</sup>

See Exhibit 16, CATA 000947 (emphasis in original, citations omitted). This is further evidence that the demographic characteristics or demographic profile must include probabilistic (and not deterministic) characteristics.

#### 14. Associated

One of ordinary skill in the art would understand the term “associated” to have its general purpose meaning of “closely connected (as in function or office) with another.” Exhibit 6, Merriam Webster, p.70; Exhibit 5, American Heritage, p. 86-87; Exhibit 29, Thissen Decl., ¶ 9. The '129 and '348 patents both claim heuristic rules that are associated with transactions. See Exhibit 1, claim 20; Exhibit 15, claim 17 (emphasis added). This means that a set of heuristic rules must be closely connected, as in function, with one transaction (or an individual item) in the detailed transaction records. In other words, the heuristic rules are product-specific.

This meaning of “associated” and the product-specificity of the set of heuristic rules is further confirmed by the specification of the '129 patent. The rules provided for the product demographics vector depicted in Figure 7 (reproduced above), which show two probabilistic rules associated with a particular product ID, are by definition a set of heuristic rules. See Exhibit 1, Figure 7; Exhibit 15, col.3, lns.5-6. Additionally, the

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<sup>21</sup> Application claim 23 was incorporated into its independent claim 16 during prosecution. See

related '348 patent specification indicates that the heuristic rules are product-specific. “The product characterization information includes vector information which represents probabilistic determinations of the demographics of purchasers of an item, heuristic rules which can be applied to probabilistically describe the demographics of the consumer based on that purchase, and a vector representation of the purchase itself.” See Exhibit 15, col.2, lns.41-47. The specification also provides that a “set of heuristic rules is retrieved and contains a probabilistic measure of the demographic characteristics of a typical purchaser of an item” and the “[c]onsumer profiling system 500 provides a product ID 514 to heuristic rules records 530 and receives heuristic rules associated with that product.” See Exhibit 15, col.2, lns.55-58 and col.9, lns.63-66 (emphasis added). Therefore, one of ordinary skill in the art would consider the set of heuristic rules to be product-specific.

#### **15. Product Characterization Information Associated with Products Included in the Detailed Purchase Records**

The product characterization information includes information concerning particular products purchased by the consumer, such as brand name, size, and price. Exhibit 15, col.11, lns.9-12; Figure 7. Product characterization information in the '348 patent specifically “refers to product demographics vectors, product purchase vectors, or heuristic rules.” See Exhibit 15, col.11, lns.3-6.

As with the heuristic rules, the product characterization information is “associated” with products according to the claims of the '348 patent. This means that the product characterization information must be product-specific. The specification also

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Exhibit 16, CATA 000982. Application claim 16 issued as claim 1 of the '348 patent.

provides that product characterization information is product-specific. *See* Exhibit 15, col.13, lns.18-22 (“For each item purchased by consumer 100, product characterization information in the form of a product demographics vector and a product purchase vector...” (emphasis added)). The “product characteristics” illustrated in Figure 7 of the '348 patent are also associated with a particular product ID.

#### PRODUCT CHARACTERISTICS

|                              |
|------------------------------|
| PRODUCT ID: 2597251          |
| BRAND: KELLOGG'S CORN FLAKES |
| SIZE: 32 OZ                  |
| PRICE: \$2.69                |

'348 PATENT-FIGURE 7 (PARTIAL)

Likewise, the product demographics vector and product purchase vector (which are by definition in the '348 patent types of product characterization information) are product-specific. Figure 7 of the '348 patent illustrates a product demographics vector associated with a specific product ID (such as a UPC).

#### PRODUCT DEMOGRAPHICS VECTOR

|                  |        |     |
|------------------|--------|-----|
| PRODUCT ID       |        |     |
| HOUSEHOLD INCOME | ≤20K   | 0.2 |
| HOUSEHOLD INCOME | 20-40K | 0.3 |
| ⋮                |        |     |
| HOUSEHOLD SIZE   | 0-2    | 0.1 |
| HOUSEHOLD SIZE   | 2-4    | 0.3 |

## '348 PATENT-FIGURE 7 (PARTIAL)

The specification of the '348 patent also states that “[e]ach product can have an associated product demographics vector.” *See* Exhibit 15, col.3, lns.7-8. The product purchase vector is similarly linked to each product by product ID (such as by UPC). The specification provides that the “product purchase vector refers to the vector which represents the purchase of a item represented by a product ID.” *See* Exhibit 15, col.11, lns.7-9. An example of the product-specific nature is provided in the '348 patent, the “product purchase vector for the purchase of Kellogg's CORN FLAKES in a 32 oz. size has a product purchase vector with a unity value for Kellogg's CORN FLAKES and in the 32 oz. size.” *See* Exhibit 15, col.11, lns.9-12.

The product-specificity of product characterization information is also confirmed in an interview between the Examiner and Expanse during prosecution the '348 patent. The summary of the interview indicates that Expanse “will amend the claims to connect the product data with the purchase.” *See* Exhibit 16, CATA 000931. Expanse then added the claim that ultimately issued as claim 1 of the '348 patent, which included the “associated” requirement.

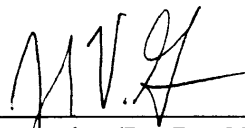
The product-specificity of the product characterization information also provides further support for the product-specificity of the heuristic rules. In claim 1 of the '348 patent, the heuristic rules are included within the product characterization information. If the set containing product characterization information is product-specific, the subset containing heuristic rules must also be product-specific.

**IV. CONCLUSION**

Expanse originally identified more than twenty claim terms to be construed by this Court in its claim construction interrogatory response. *See* Exhibit 22. Now Expanse has significantly reduced the number of claim terms to be construed by claiming that most of those terms should have their ordinary meaning without identifying what that meaning is, clearly with an eye towards making *Markman*-type arguments about the ordinary meaning of words to the jury. That is clearly improper. Under *Markman*, when there is a dispute between the parties about claim terms, the Court should resolve that dispute. Catalina has properly construed the claims in dispute and respectfully requests that this Court adopt that construction.

Respectfully Submitted,

Dated: June 25, 2004

  
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**ATTORNEYS FOR DEFENDANT  
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**CERTIFICATE OF SERVICE**

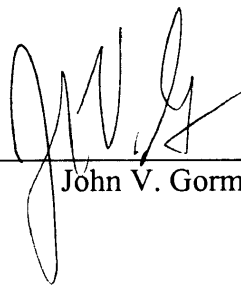
The undersigned certifies that a copy of the foregoing **DEFENDANT'S MARKMAN BRIEF REGARDING CLAIM CONSTRUCTION OF THE '129 AND '348 PATENTS** was served upon the attorneys of record of all parties to the above cause in accordance with Federal Rules of Civil Procedure, on this 25<sup>th</sup> day of June, 2004:

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